Responses to comment letters received.

Our organization has reviewed your draft EIS for the proposed Condon Wind Project. Our concerns regarding this proposed project, issues with the draft EIS, and alternative suggestions are outlined as follows:

I. The likely mortality of birds, bats and other avian species resulting from the implementation of this project is unacceptable.

Since the project area is predominantly a dry, open agricultural area, and the project is predicted to have only minor effects on relatively common species at a local level with negligible effect on population viability, the impacts are assessed as having low to moderate impact. The four-season avian use survey and bat survey looked for high-use areas so turbines could be located elsewhere. Although no high-use areas were observed for either birds or bats, certain areas were identified as potential avian use areas and wind turbines were relocated away from those areas.

Potential effects to birds and bats are shown in EIS section 3.6.4 and have been updated for the Final EIS. The high end of the avian mortality projection was incorrectly calculated due to an error in interpreting mortality data collected at the Buffalo Ridge Windplant reported in Johnson et al. (2000). The mean fatality rate used for making the high end projection in the DEIS was an estimate of reference mortality (natural mortality) and not turbine mortality. The turbine mortality estimate averaged over the 4 years of study at Buffalo Ridge is 2.8 avian fatalities/turbine/year. Applying this to the Condon project yields an estimate of approximately 115 avian fatalities for phase 1 and 115 fatalities for phase 2 per year. The low end of the range is correct and is based on the one year Vansycle, Oregon, study (Erickson et al. 2000).

A. At this time, rather than approving the project as proposed, at most only a small pilot study wind power generation project should be temporarily, and conditionally, permitted to proceed. This pilot project should cover no more than five acres and employ turbines spaced 1.5 to 3 times more distant from each other than the proposed alternative. The pilot project should be licensed for a period of no more than five years and should be mandated to accomplish the following:

1. Research the total number of birds, bats, and other avian species killed, wounded, or otherwise adversely affected by the project and disclose the results yearly, and/or seasonally.

2. Establish an interdisciplinary team of wildlife biologists (ornithologists, etc.) and wind generation research engineers whose mission and objectives are to design, develop, and deploy wind power generation turbines which further successfully reduce and minimize mortality impacts to avian species. This team will explore utilizing methods and devices which warn and/or deter avian species from the generation area. Among known options are: 1. visible flagging, 2. sounds beyond the range of human hearing, 3. signals detectable by bats and other avian species, 4. deflection devices, 5. decoys of predators, etc. This team should also explore alternative development of wind generators which do not utilize large revolving blades. options which exist include funneled wind-tunnel tubes (with screening, warning, and/or deflecting devices), as well as the development of wind velocity amplifiers and inverters.

A small pilot study would not meet BPA's need for action as stated in section 1.2 of the EIS. "In the face of regional growth in electrical loads and increasing constraints on the existing energy resource base, BPA needs to acquire resources that will contribute to diversification of the long-term power supply in the region." In addition, it would not meet any of the purposes of action listed in Section 1.3. In proposing the Condon Wind Project, SeaWest considered factors such as wind speeds, market

prices, length of purchase agreement, and economies of scale to determine project size and viability. A smaller project at this site would not be feasible for the developer or meet BPA's need for action.

In this EIS, the BPA is analyzing whether to buy and transmit power from the project proposed and designed by SeaWest (Chapter 2). BPA's role is limited to analyzing the effects of the project as proposed and deciding if buying the power from the project aligns with BPA's business objectives. Analyzing different types of proposals, or different sites or sizes for the existing proposal, would be impractical and not a reasonable effort since no developer has proposed such alternatives.

Mitigation measures that reduce the potential for impacts to birds and reflect the state-of-the-art knowledge about minimizing impacts to raptors and other avian species are built into the siting and design of the project and are addressed in Section 3.6.4. BPA does have some influence on mitigation of the proposed project to make it more desirable environmentally and economically. For example, some turbines were moved from their original planned sites after those sites were identified by the four-season avian study as potential crossing areas for birds. Other mitigation measures would be employed to minimize potential project impacts to birds and other wildlife as discussed in section 3.6.4.5. These measures include monitoring avian and bat mortality for the first year of operation and submitting a quarterly report to BPA, the Oregon Department of Fish and Wildlife, and the U.S. Fish and Wildlife Service.

II. The continuing sprawl of modern technological society's impacts upon surrounding/outlying natural, rural, agricultural areas must be minimized, and where possible reversed. In addition to or in lieu of I.A above, BPA and SeaWest should explore comprehensive research on location utilization and production--site specific energy production and conservation. Among viable options are: utilization of solar, wind, and rain power generation devices at the numerous diverse locations of energy need--eg: rooftops, gutter, incorporation into building designs and structures--as well as energy efficiency, conservation, and cogeneration--all within the urban and industrial areas themselves. Need based self sufficient site production also has the added benefits of: 1. eliminating the need for much of the current large grid required for energy consolidation and distribution (as well as the inefficient energy loss due to this), 2. independence from the domino impacts of power outages, failures, limited available supply, 3. increasing the capacity to meet growing power demands which exceed that of the current grid systems' ability to deliver, 4. keeping industrial and technological impacts within already developed areas, thus preserving more natural and rural agricultural areas, 5. minimizing the further spread of the adverse impacts of emfs.

Section 3.2.4 describes the effects of changing the land use scenario in the Condon project area to include the proposed development of wind power generation. The effects of doing off-site generation using other sources equates to not proceeding with the proposed Condon Wind Project. The effects of doing nothing with the Condon Wind Project are disclosed in the discussion of the No Action Alternative.

BPA is an agency within the U.S. Department of Energy subject to national energy and development policies set by the President and Congress. While BPA is aware of the effects of "the continuing sprawl of modern technological society's impacts upon surrounding/outlying natural, rural, agricultural areas," which you describe, BPA is not in a position to unilaterally undertake the endeavors you suggest. Those must be national priorities directed by the President or Congress. Instead, BPA works within its statutory authorizations to achieve much of what you recommend by, for example, helping our customers conserve energy, marketing green energy, and funding research in new sources of energy such as fuel cells. Please call or visit BPA's Public Reading Room to find information on these and other conservation and renewable resource programs BPA has undertaken.

III. The draft EIS fails to adequately and accurately disclose the many known adverse impacts of electro-magnetic fields upon human health (including workers as well as area residents), the environment, and wildlife species. A supplemental EIS should be issued which fully discloses this necessary pertinent information, so that both the public as well as the decision maker(s) are fully informed as required by the NEPA.

Effects on humans from electric and magnetic fields (EMF) are discussed in Section 3.14.4.3. BPA completed an extensive review of EMF in its *Electrical and Biological Effects of Transmission Lines: A Review* in December 1996. Although the study focused on high-voltage transmission lines, it also reviewed related research on distribution lines. In general, reviews of the epidemiological and biological research on EMF consistently conclude that no causal link has been established between EMF and adverse human health effects. However, since most of the studies acknowledge there are still unanswered questions, steps to prevent or reduce exposures are recommended. At the Condon site, any EMF generated by the project would diminish to background levels within a few hundred feet from the substation or any overhead powerlines. The nearest residence to proposed developments is located well beyond the reach of EMF effects (about 2000 feet away). The power generated by the proposed project would not raise background EMF to levels that would be substantially different from existing levels.

Effects of EMF to plants and animals were not studied in this EIS because facilities emitting similar or higher levels of EMF have been operating for many decades, and no substantial adverse effects to plants or animals have been reported. Chapter 4 of BPA's December 1996 review discusses the effects of EMF on animals and plants. Studies of plants growing near transmission lines generally found no adverse effects of EMF on overall growth. The studies that have been done provide no evidence for harmful effects of EMF on animal behavior or health.

Section 3.14.4.3 in the EIS has been updated.

IV. The EIS fails to present a comprehensive range of viable alternatives to the proposed action, including those presented in IA and II above.

BPA's Resource Programs EIS (RPEIS, DOE/EIS-0162, February 1993), a programmatic document, evaluates the environmental tradeoffs among generic resource types (both conservation and generation) and the cumulative effects of adding these resources to the existing system. In BPA's April 1993 Record of Decision for the RPEIS, the administrator chose the Emphasize Conservation Alternative because it was the most cost effective and environmentally responsible. The Emphasize Conservation Alternative included all cost-effective conservation, efficiency improvements, co-generation, and renewables, supplemented with thermal resources such as combustion turbines (CTs). The RPEIS documented a strategy for tiering site-specific project analyses that are consistent with the Emphasize Conservation Alternative. Specific projects will be evaluated on a go/no-go basis. The Condon Wind Project EIS is tiered to the RPEIS and evaluates the potential site-specific impacts of the proposed Condon Wind Project and a No Action alternative to help BPA make its decision.

The proposed action is for BPA to purchase and transmit the power produced by the Condon Wind Project (section 2.1). Other sources of power were not proposed by SeaWest as an alternative to the Condon Wind Project, so BPA's role is limited to analyzing the effects of purchasing and transmitting power from the project as presented, and the No Action Alternative.

In conclusion, we strongly advocate that this proposed project either be modified to incorporate the above concerns and recommendations, or that a new comprehensive EIS be completed which addresses the above issues and brings this proposed project into compliance with NEPA.

Your comments and interest in BPA actions are appreciated. BPA hopes the responses above clarify the scope of the analysis to your satisfaction.

Additional issues: EIS fails to assess cumulative impacts-past, present, & likely future impacts of this project and other area management/development impacts to avian species and area environment.

The cumulative effects analysis is found in EIS Chapter 4. It has been amended to clarify and elaborate upon the expected impacts to birds and the environment in general. Since the Draft EIS for the Condon Project was issued, BPA has begun working with another developer in the preliminary phases of determining the feasibility, siting and sizing of another wind project in the north part of Gilliam County, about 19 air miles from the north end of the Condon project study area. If that project proceeds, BPA would analyze its environmental effects in a separate NEPA document, which would include a more detailed cumulative effects analysis incorporating the Condon Wind Project.

Fails to address noise levels as turbines and their bearings age as well.

Impacts associated with noise are disclosed in EIS section 3.13. Since ambient noise levels in the project area are currently low and are projected to remain low during operation of the project, and since no new noise-generating activities are anticipated in or around the project area in the foreseeable future, no substantial cumulative effects are anticipated. Furthermore, routine maintenance would detect and correct problems with turbine performance; and periodic inspection/monitoring and lubrication would occur to prevent mechanical problems that could generate noise (EIS section 2.1.6).

The Renewable Northwest Project (RNP) appreciates the opportunity to comment on the Draft Environmental Impact Statement for the Condon Wind Project. RNP is composed of environmental groups, consumer organizations, renewable energy developers and energy efficiency companies. Operating in Oregon, Washington, Idaho and Montana, RNP works for clean air and sustainable energy through the implementation of cost-effective, workable, renewable technologies.

Renewable resources need to be examined within the context of the resources they displace and the problems they help avoid. Investing in properly sited renewables protects the environment, promotes economic development, diversifies the power system and keeps the region competitive.

BPA's Resource Programs EIS (RPEIS, DOE/EIS-0162, February 1993) and ROD compares impacts of different generation resources including wind, other renewable resources, and fossil fuels. The RPEIS shows how one energy resource may displace impacts associated with other resources. BPA's Business Plan EIS (DOE/EIS-0183, June 1995) makes the programmatic decision to invest in conservation and renewable resources based in large part on the comparisons shown in the RPEIS. The Business Plan sets the course for BPA to diversify the supply of energy in the region to meet customer demand in an environmentally friendly manner.

In the Condon Wind Project EIS, the No Action Alternative assumed that the most likely generation to be developed in the region would be CTs. Therefore, brief discussions of the impacts of a CT are included under Environmental Consequences—No Action Alternative throughout Chapter 3.

RNP appreciates BPA's leadership and commitment in developing renewable resources. We support the development of Condon Wind Project.

Tightened energy supplies coupled with the energy crisis in the Northwest have resulted in the support of short-term small generation policies relying on diesel fuels and the proposal of more than 16,000 MW of new gas-fired power plants in the region. Fossil fuels are major sources of acid rain, pollution-caused illnesses, habitat destruction, smog and greenhouse gases. The fuel cycle, from extraction to combustion of fossil fuels, results in the vast majority of human-made releases of greenhouse gases.

BPA's recent short-term small capacity generation policy was a temporary response to the regional energy crisis. BPA, in accordance with its Business Plan, prefers to promote conservation and renewable energy (such as the Condon Wind Project) to help supply the region's power demands. As new permanent sources of energy come online and the energy crisis is alleviated, short-term small generation should no longer be needed.

The Condon Wind Project comes at crucial time in the Pacific Northwest. In comparison to developing a new gas plant, the 24.6 MW Project, operating at 30% capacity factor could displace annual emission of at least 27,152 tons of CO2, and 2.7 tons of acid rain precursors (SOx and NOx). In terms of global warming impacts, this is the equivalent to planting of 10,200 acres of trees.

As new gas plants come on line over the next 2 to 3 years, our reliance on fossil fuels will worsen. According to the Clean Air Task Force, a 250 aMW gas plant will produce at least 958,000 tons of CO2, 2.38 tons of SO2 and 88 tons of NOx each year.

The EIS discloses the expected emissions from the proposed project and the No Action alternative in section 3.12. For sake of comparison, the EIS includes a cursory estimate of what a natural gas powered CT generator might produce in Section 3.12.5.

The Condon Wind Project provides an opportunity to diversify the region's fuel mix and avoid the adverse environmental impacts associated with fossil-fueled resources and hydro.

The desire to diversify the power supply portfolio is vital to BPA as shown in Section 1.2 – Need for Action and Section 1.3 – Purpose of Action.

We appreciate Bonneville and SeaWest's effort in taking the necessary steps to developing a beneficial wind project in the region.

RNP is pleased to see that there are low to minor avian and wildlife impacts, and that threatened wildlife species are not likely to be adversely impacted. SeaWest has taken the necessary steps to minimize wildlife impacts by adopting monitoring standards once the project is in operation.

Thank you for your comment. Please note that the analysis on summer steelhead (Middle Columbia River Evolutionarily Significant Unit) has been changed to a "no effect" finding on advice from the National Marine Fisheries Service (Section 3.4.4.2 and Section 3.4.4.3).

The no action alternative should better document the air pollution and water quality impacts that will result from a greater reliance of fossil fuels in the status quo. In particular, the avian impacts from fossil fuel emissions need to be identified. The no action alternative in this EIS underestimates the impacts. We believe the benefits of wind would be even more dramatic if the no action alternative reflected the full costs of a strategy that fosters more destructive resources.

"No action" means not meeting the need for action. Our need for action is to acquire resources that will contribute to diversification of the long-term power supply in the region. For this EIS, no action means BPA would pass on this opportunity to diversify the power supply, and the power from the Condon Wind Project would not be purchased or transmitted by BPA. Other resources, most likely CTs, would continue to be built and operated to provide electricity for the region. Therefore, the analysis of the no action alternative references potential impacts from energy resources (assumed to be CTs) built instead of the proposed project. This is done to provide a point of reference for generically comparing wind energy impacts to an example of the least impacting fossil fuel generation system. Additional cumulative impact analyses from greater development of fossil fuel generation sources are in BPA's Resource Programs EIS and Business Plan EIS. In addition, BPA's new Regional Air Quality Study describes the potential air quality impacts of operating up to 45 proposed CTs in the region.

BPA's RP EIS was incorporated by reference into the Condon Wind Project EIS (Section 1.5). The RP EIS includes an analysis of impacts from thermal generation on wildlife (Section 5.4.4), particularly impacts from changes in air quality. A complete discussion of the wildlife impacts is in Appendix F of the RP EIS, and is summarized in Section 5.4.4 of the RP EIS. The analysis noted that many smaller animals, and especially birds, take in more air per unit of body weight so they are more susceptible to impacts from certain criteria pollutants (particulates and nitrogen oxides) and acidic deposition.

Renewable resources neither harm fish nor create air, water and land pollution associated with fossil fuels or hydro. The growing need to control greenhouse gas emissions will create a greater need for zero emission resource, such as wind.

We fully support the development of the project because developing renewable resources for power can lead to a sustainable environment and economy.

Thank you for your comment.

I have studied the Condon Wind Project DOE/EIS-0321. Very informative and well done. As a participant, I'm much in favor. This should be very good for Gilliam County, and should be beneficial for the nation. A source of good clean renewable power.

Thank you for your comment.

The EPA's earlier concerns in a scoping letter about bird collisions with the turbines were satisfactorily answered with a detailed analysis on avian mortality from other wind power projects and with proposed actions to mitigate those effects:

- ***Avian use in the study area is low.***
- ***The design of tubular steel towers rather than lattice towers minimize bird perching or nesting opportunities.***
- ***The slow-moving blade rotation (one revolution every two seconds) increases the visibility of blades.***
- ***Turbines would be located on the top or downwind sides of ridges, where raptor use is less.***

- ***Where feasible, transmission facilities would be located underground to reduce the number of locations near turbines where birds may be attracted to perch.***

Potential effects to birds and bats are shown in EIS section 3.6.4 and have been corrected for this Final EIS (see response to first comment). Mitigation measures that apply to effects on birds are included in section 3.6.4 (design and location of turbines) and section 3.6.4.5 (including inventory and monitoring).

The Need for Renewable Energy Sources
Because of the current energy supply issues, we are pleased that BPA is expanding the use of renewable energy sources. BPA's goal is to have renewable energy sources make up 5 percent of its total sales by 2006. Technologies like these can help displace power currently generated by fossil fuel combustion and hydro, and meet energy needs without additional emissions from greenhouse gases. The project is an opportunity to help the region integrate renewable resources into the power system in the future, and to satisfy consumer demand to increase the amount of new renewable energy resources in the region's power supply.

EIS section 1.2, Purpose of Action, has been amended with a second paragraph to elaborate on the need for renewable energy sources like the Condon Wind Project.

Power Rates
One of the issues raised by the public during the scoping process was how the project would affect power rates. The FEIS should include information on the Gilliam County's power rates, which according to BPA staff, will not change because of this project's small size. But the EIS should discuss whether the electricity will be sold within the region or to outside markets, as well as potential reductions in impacts from other types of power generation. Also, include what type of power generation is wind likely to substitute for.

Gilliam County is served by two electric utilities, Columbia Basin Electric Cooperative (CBEC) and PacifiCorp. Both purchase power from BPA. There would be no impact on the cost of power they buy from BPA because the cost of purchasing output from new renewable energy sources like the Condon Wind Project is included in BPA's rates for the fiscal year 2002-2006 rate period. Regardless, the annual cost of this proposed project is extremely small compared to BPA's annual budget, which exceeds $2 billion. Therefore, there would be no impact from the project on power rates in Gilliam County or elsewhere in the region.

Output from the project would be melded with output from BPA's other energy resources — it would not be earmarked or specifically identifiable as the energy marketed to Gilliam County or any other BPA customers. Only surplus power can be sold outside BPA's Pacific Northwest service territory. However, BPA does exchange power with other regions such as California.

It is not known what specific energy resources would be developed in lieu of the Condon Project. Most likely these resources would be CTs (see Section 2.4) since approximately 24,000 megawatts of natural gas-fired CTs have been proposed for construction in BPA's service area. Brief mentions of potential impacts from other means of power generation (particularly by CTs, the most likely substitute power generation source (see section 2.4)) appear in the EIS throughout chapter 3 within discussions of the effects of the No Action alternative. Several of these sections have been amended for this Final EIS.

Cumulative Effects
NEPA requires that cumulative impacts be addressed as a summary of the individual impacts of this and all other past, present and "reasonably foreseeable" future projects, including activities on

private adjacent land irrespective of what agency/entity has decision-making authority or analysis responsibility. The reasonably foreseeable development scenario may have a large impact on wind power generation facilities. Projections could vary for the number of turbines and turbine spacing and turbine locations, and future energy development.

In the Cumulative Impacts Section, Chapter 4, page 1, the EIS says that implementation of the proposed project may establish a precedent for wind energy development in the Condon area. However, if other projects are planned, potential cumulative impacts would be evaluated for visual impacts (more turbines) as well as impacts to birds and bats.

SeaWest should identify the reasonably foreseeable development scenario for their wind generation proposal, and BPA should evaluate this scenario further. Reasonable forecasting is implicit in NEPA and federal agencies should attempt to predict the environmental effects before they are fully known, unless obtaining such information is unreasonable. Development of wind electrical energy production capacity on the Condon site may encourage or promote additional transmission lines or additional wind generation facilities to be built. Such possibilities should be addressed in the EIS and incorporated into the reasonably foreseeable development scenario. Questions to be considered in the EIS should include: the likelihood that there will be future projects in the area; an estimate of the magnitude, and the environmental consequences of a reasonably foreseeable scenario.

Although the proposed project may establish a precedent for wind energy development in the Condon area, BPA is not aware of any other planned wind projects in the project vicinity. However, after issuing the Condon Wind Project Draft EIS, BPA began working with a another developer in the preliminary phases of determining the feasibility, siting and sizing of another wind project, identified as the Wheat Field Wind Project, in the northern part of Gilliam County, about 19 air miles from the Condon project study area. This project is not in the immediate vicinity of the Condon Wind Project, but it is within Gilliam County well to the north of Condon. If that project proceeds, BPA would analyze its environmental effects in a separate NEPA document, which would include a more detailed cumulative effects analysis incorporating the effects of the Condon Wind Project. The size of the Condon project, and of any possible further projects in the Condon area, is constrained by available transmission capacity in the area. Expansion of wind facilities in the Condon area is not likely in the near future, if at all. Thus, while further wind projects in the vicinity of the Condon Wind Project are a remote possibility, such additional projects are highly speculative and not reasonably probable at this time.

The Condon Wind Project is 19 air miles, and a much longer distance by highway, from the preliminarily designated site for the Wheat Field Wind Project. Due to this considerable distance, there are no anticipated significant cumulative impacts on visual, auditory, botanical, terrestrial wildlife, transportation, housing, recreational, or other resources of Gilliam County. The only potential exceptions are for avian species and socioeconomic impacts. Chapter 4—Cumulative Impacts, has been amended to include the Wheat Field project in the discussion of cumulative impacts to avian species and socioeconomics.